WHAT IS CLAIMED IS:

1. A camera comprising:

a plurality of image pickup means for picking up an image;

5   display means for displaying an image picked up by the image pickup means; and

a plurality of memory means being used both as display memory in displaying the image picked up by said image pickup means and as recording memory for

10   recording the image acquired by said image pickup means.

2. A camera according to claim 1, wherein when said plurality of memory means are used in displaying

15   the image picked up by said image pickup means, some of said plurality of memory means are used for write operation and the others of said plurality of memory means are used for read operation by switching between the write and read operations, whereby said plurality

20   of memory means are used as a double buffer.

3. A camera according to claim 1, wherein when said plurality of memory means are used for recording the image picked up by said image pickup means, all of

25   said plurality of said memory means are used for write operation in order to record each image acquired by said plurality of image pickup means, and after said

write operation is completed, all of said memory means are used for read operation.

4. A camera according to claim 2, wherein the image is written in said double buffer in normal form and the image is read from said double buffer in inverted form.

5. A camera according to claim 2, wherein the image is written in said double buffer in inverted form and the image is read said double buffer in normal form.

6. A camera according to claim 3, wherein the image is recorded in normal form when all of said plurality of memory means are used for write operation, and the image is read in inverted form from all of said plurality of memory means after the recording is completed.

7. A camera according to claim 3, wherein the image is recorded in inverted form when all of said plurality of memory means are used for write operation, and the image is read in normal form from all of said plurality of memory means after the recording is completed.

8. An image pickup system comprising:

a plurality of image pickup means;

a plurality of buffer memories for temporarily storing each of the data output from said plurality of image pickup means; and,

image combination means for combining image read from buffer memories.

9. A system according to claim 8, wherein said plurality of buffer memories are used as a double buffer which is switched between uses for write and read operations of image data output from said image pickup means.

10. A system according to claim 9, further comprising a color signal processing circuit for applying a predetermined color signal process to each image data output from said image pickup means, wherein said double buffer is provided in the stage subsequent to said color signal processing circuit.

11. A system according to claim 9, further comprising a signal processing circuit for applying a predetermined signal process to each image data output from said image pickup means, wherein said double buffer is provided in the stage preceding to said color signal processing circuit.

12. A system according to claim 11, further comprising a pixel thinning-out/interpolation circuit for applying pixel thinning-out or interpolation process to each of said image data in combining by said

5 image combining means each image data from each of said plurality of image pickup means, wherein said double buffer is provided in the stage subsequent to said pixel thinning-out/interpolation circuit.

10 13. An image pickup system comprising;
a plurality of image pickup means;
a 3-D display being capable of displaying image three-dimensionally;
a buffer memory being used as a double buffer

15 which temporarily stores the image data from said plurality of image pickup means and is switched between uses for write and read operations of the image data output from said image pickup means; and
image combining means for combining the image data

20 read from said buffer memory.

14. A system according to claim 13, wherein said 3-D display is a rear-barrier display.

25 15. A system according to claim 13, wherein said 3-D display is a liquid crystal shutter display.

16. An image pickup system comprising;

right and left image pickup means;

right and left buffer memory means for temporarily storing image data read from said right and left image

5 pickup means, respectively; and

image combining means for combining the image data read from said right and left buffer memory means,

wherein each of said right and left buffer memory means has a plurality of memories and is arranged so as

10 to perform read and write operations of the image data concurrently at predetermined periods, and

wherein said image combining means combines image data output from each of said right and left buffer memory means to output a combined image data at

15 predetermined periods.

17. A system according to claim 16, wherein said predetermined periods are field periods.

20 18. A system according to claim 17, further comprising an image memory for storing the combined image data output from said image combining means; and

displaying means for displaying the image stored in said image memory,

25 whereby the right and left image data combined by said right and left image pickup means is displayed in said field periods.

19. A system according to claim 16, wherein said right and left buffer memory means are controlled to be switched between write and read operations of said plurality of memory means alternately at predetermined

5   periods, whereby write and read of image data to and from said buffer memory means are concurrently performed.

20. A system according to claim 17, further

10   comprising a recording means for recording the image data read from said right and left buffer memory means in the recording medium, wherein said recording means records an attributes which indicates that the image data are right and left image data which make up a 3-D

15   image along with said image data read from said right and left buffer memory means in said recording medium.

21. A system according to claim 18, further comprising a compression encoding means for compressing

20   and encoding said image data and providing a compressed and encoded data to said display means.

22. A method for generating a 3-D image or panoramic image by storing image data output from a

25   plurality of image pickup means in a plurality of buffer memories and combining the image data read from said plurality of buffer memory means, comprising steps

of;

constructing each of said buffer memory means with plurality of memories;

performing write and read operations of the image

5   data concurrently at predetermined periods; and

combining the image data output from said plurality of buffer memory means and outputting a combined image data in said predetermined periods.

10   23.   A method according to claim 22, wherein said predetermined periods are field periods, and said combined image of plurality of image data picked up by said plurality of image pickup means is displayed at field periods on a display means by storing said

15   combined image data in an image memory and displaying said stored image data on said display means.

24.   A method according to claim 22, wherein said right and left buffer memory means are controlled to be

20   switched between write and read operations of said plurality of memory means alternately at predetermined periods, whereby write and read of image data to and from said buffer memory means are concurrently performed.